

REMARKS

Applicant, by the amendments presented above, has made a concerted effort to present claims which more clearly define over the prior art of record, and thus to place this case in condition for allowance.

Currently, claims 1-17 and 19-36 are pending. Claims 19-36 were added in this Amendment. Claim 18 was canceled without prejudice in this Amendment.

Claim Objections

Claims 4, 5, 7-9 and 11-17 were objected as being in improper form. Applicant has amended these claims to correct the dependency. Consideration is requested.

Claim Rejections - 35 U.S.C. §112

Claims 1-3, 6, 10 and 18 were rejected under 35 U.S.C. §112, second paragraph, as allegedly being indefinite. Claim 18 has been canceled. Claim 1 has been amended to delete "the variable". Reconsideration and allowance is requested.

Claim Rejections - 35 U.S.C. §103

Claims 1-3, 6, 10 and 18 were rejected under 35 U.S.C. §103 as being unpatentable over United States Patent No. 6,050,260 to Daniell et al in view of United States Patent No. 5,558,084 to Daniell. Claim 18 has been canceled. Reconsideration of the rejection in view of the amendments and the remarks made herein is requested.

The present invention relates to monitoring the flow and if any changes in the flow occur readjusting the power supplied to achieve the desired humidity. Preferably, the flow is monitored using the resistance of the conduit heater. The conduit heater resistance can

indicate abnormal flow conditions such that thermal overshoot and dangerous burns to the respiratory tract of the user can be avoided.

It will be appreciated that the improvement of the present invention achieves these objectives by an open loop controller whereby the algorithm (whether it calculates or uses a look up table) determines the flow and calculates the appropriate energization for the humidifier and/or the conduit heater to achieve the desired patient end temperature, again without actually sensing patient end temperature.

Applicant submits that either alone or in combination, Daniell '260 and/or Daniell '084 does not disclose the following features as defined in amended claim 1:

- An open loop control method for delivering gas to a patient at a desired humidity/temperature;
- Determining a parameter relating to the flow rate;
- Energizing the humidifier depending on at least the parameter;
- Monitoring the parameter for changes (e.g., abnormal conditions which could lead to patient injury).

Applicant submits that the combination of Daniell '260 and Daniell '084 includes a patient end temperature sensor which constitutes closed loop control. The combination of Daniell '260 and Daniell '084 applies feedback to achieve the patient end temperature set point. The combination of Daniell '260 and Daniell '084 does not determine the flow rate from variables available to the controller as patient end temperature and/or ambient temperature are the only control input. The combination of Daniell '260 and Daniell '084 does not monitor the flow rate and where variation above the first threshold occurs rerunning the algorithm.

Accordingly, Applicant submits that claim 1 is novel and non-obvious over Daniell

'260 in view of Daniell '084. Reconsideration and allowance of claim 1 is requested.

Claims 2, 3, 6 and 10 are dependent upon claim 1 which Applicant submits is in condition for allowance. Reconsideration of claims 2, 3, 6 and 10 is respectfully requested.

With further regard to claim 6, Applicant requests clarification of the rejection. Claim 6 specifies "said controller or processor monitors said input power supplied to said conduit heater to provide an indication of the resistance or temperature of said conduit heater". It appears that the Examiner understands claim 6 to be directed to providing an indication to a user as to whether the heating element is turned on or off. Applicant advises that claim 6 is directed to calculating the resistance or temperature of the conduit heater based off the input power.

Newly-Presented Claims 19-36

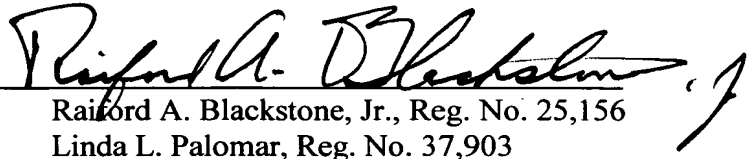
Claim 19-36 are newly-presented and relate to a method of delivering humidified gas at a desired level of humidity or at a desired temperature to a patient using an open loop controlled humidifier. Applicant submits that the prior art does not disclose or suggest the specific steps of the method. The prior art does not disclose an open loop control of the humidifier to control the patient end humidity/temperature and monitoring the flow rate for changes, without patient end sensors. Applicant therefore submits that these claims are novel and non-obvious over the prior art. Entry, consideration and allowance of the claims is requested.

In view of the above Amendments and Remarks, Applicant respectfully submits that the claims of the application are allowable over the rejections of the Examiner. Should the Examiner have any questions regarding this Amendment, the Examiner is invited to contact one of the undersigned attorneys at (312) 704-1890.

Respectfully submitted,

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